

Re-Amt A
4-19-99
DW

3

Preliminary Amendment

1. In the specification

On page 4, last line, after "illustration", insert --and drawings--.

On page 5, line 5, insert

a1 --Fig. 3 is a vertical cut over the length of an extruder,
Fig. 4 is a horizontal cut over the length of the extruder, and
Fig. 5 is a cross-section through the extruder along the line V-V of Fig. 3.--

On page 5, line 11, after "200 to 400 rpm", insert

a2 --Details of these commercial machines will be explained below, based on Figs. 3 to 5.--

On page 9, after line 5, insert the following paragraph.

09043954-032798
a3 --The twin-screw extruders used for the tests specified above will become apparent from the diagrammatic illustration of Figs. 3 to 5. The housing 1 of the extruder comprises several housing sections 2, 3, 4, which have flanges 5 by which they are detachably joined to each other by means of screws 6. The housing 1 comprises two cylindrical housing bores 7, 8 which are parallel to each other, intersect each other and have axes 9, 10 parallel to each other. Screw shafts 11, 12 are disposed in the housing bores 7, 8, each having a shaft 13, 14 which constitutes the core of the respective screw shaft 11 and 12, respectively, and a screw 15, 16 which is disposed on the core, spiralling in the form of a thread. On each screw shaft 11, 12, a screw root 17, 18 is defined by each screw 15, 16, by the shaft 13, 14 and the housing bore 7, 8. There is only a small gap between the screw 15, 16 and the respective housing bore 7, 8.

As seen in Fig. 4, the two screws 15, 16 rotate in the same direction. As seen in Figs. 4 and 5, the screws 15, 16 mesh, i.e. the screw 16 of the screw shaft 12 engages with the screw root 17 of the screw shaft 11 and vice versa.

An inlet hopper 20, through which the materials to be processed are supplied, is formed on the housing section 2 which is disposed downstream, related to a direction of conveying 19. Outlet tools, namely die heads 21 such as pelletizing dies, die plates and the like may be attached to the housing section 4 which is disposed downstream, seen in the direction of conveying 10.

The screw shafts 11, 12 are each driven in the same direction of rotation 25 by a motor 22 via a clutch 23 and a reduction and distribution gear 24. Each shaft 13 and 14, respectively, can be driven by a torque M_d . The distance a of the axes 9, 10, the outer diameter D_a of each screw 15 and 16, respectively, and the screw inner diameter D_i are likewise seen in the drawing. D_a and D_i are identical for both screw shafts 11, 12.--

1-5